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... all the primitive events until the **composite event** is finally ... in Section 4. As a result, the **processing** of a ... with at least four different **database** states: DB T ...

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... Rule execution refers to the **processing** of rules, which ... Of course, like the **database** the rule- and the ... the definition of primitive and **composite event** patterns ...

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U Dayal - Active and Real-time **Database Systems** (ARTDB-95): ..., 1995 - Springer Verlag

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G Kappel, W Retschitzegger - ACM Sigmod Record, 1998 - portal.acm.org

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↑ ABSTRACT

Active database systems support mechanisms that enable them to respond automatically to events that are taking place either inside or outside the database system itself. Considerable effort has been directed towards improving understanding of such systems in recent years, and many different proposals have been made and applications suggested. This high level of activity has not yielded a single agreed-upon standard approach to the integration of active functionality with conventional database systems, but has led to improved understanding of active behavior description languages, execution models, and architectures. This survey presents the fundamental characteristics of active database systems, describes a collection of representative systems within a common framework, considers the consequences for implementations of certain design decisions, and discusses tools for developing active applications.

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Letter from the TC Chair	<i>R. Agrawal</i>	1
Re-Introducing the Data Engineering Bulletin.....	<i>D. Lomet</i>	2
Important Membership Announcement.....	<i>D. Lomet</i>	3

SPECIAL ISSUE ON ACTIVE DATABASES

Letter from the Guest Issue Editor		4
Active Database Modeling and Design Tools: Issues, Approach, and Architecture	<i>S. B. Navathe, A. Tanaka, and S. Chakravarthy</i>	6
Constraint Enforcement through Production Rules: Putting Active Databases to Work	<i>S. Ceri, P. Fraternali, S. Paraboschi, and L. Tanca</i>	10
The Starburst Rule System: Language Design, Implementation, and Applications	<i>J. Widom</i>	15
Active Database Facilities in Ode	<i>N. H. Gehani and H. V. Jagadish</i>	19
SAMOS: an Active Object-Oriented Database System	<i>S. Gatzliu and K.R. Dittrich</i>	23
Active Rules based on Object-Oriented Queries	<i>T. Risch and M. Skold</i>	27
On Developing Reactive Object-Oriented Databases	<i>M. Berndtsson and B. Lings</i>	31
Active Database/Knowledge Base Research at the University of Florida	<i>S. Chakravarthy, E. Hanson, and S. Y. W. Su</i>	35
A DOOD RANCH at ASU: Integrating Active, Deductive and Object-Oriented Databases	<i>S. Dietrich, S. Urban, J. Harrison, and A. Karadimce</i>	40
REACH: A REal-Time, ACtive and Heterogeneous Mediator System.	<i>A.P. Buchmann, H. Branding, T. Kudrass, and J. Zimmermann</i>	44
Triggers on Database Histories.	<i>A. Prasad Sistla and O. Wolfson</i>	48
Active Databases for Approximate Consistency Maintenance	<i>L. J. Seligman and L. Kerschberg</i>	52
Events and Events Rules in Active Databases	<i>T. Urpi' and A. Olive</i>	56


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... way as all user-provided **data- base** entities. ... automatically trigger changes for the affected **events** ... the point that mechanisms in **active database** systems entail ...

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... Obviously, if an **active database** system is used, the workflow activities may be con ... of the rules contain various oper- ations which may again signal **events**. ...

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Abstract

The detection of events in an active database system turns out to be a difficult problem. The event specification languages proposed in the recent past which include, among others, the events (composite events). Therefore, a mechanism is required that is suitable to model the composite events and to implement the event detector. We demonstrate how Petri nets can be used as the basis of such a mechanism in the context of the SAMOS active database system prototype.

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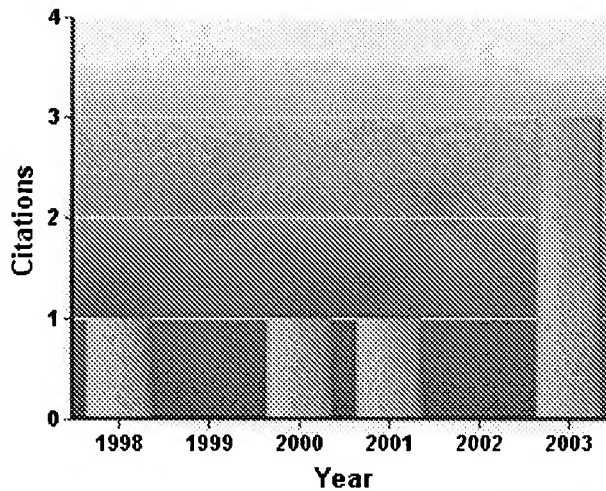
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1

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SAMOS in hindsight: experiences in building an active object-oriented DBMS*¹

Klaus R. Dittrich , , Hans Frittschi , Stella Gatzju , ¹, Andreas Geppert , ² and Anca Vaduva 












Database Technology Research Group, Department of Information Technology, University of Zurich, Winterthurerstr. 190, CH-8057, Zurich, Switzerland

Received 11 July 2000; accepted 10 December 2001. ; Available online 28 May 2002.

Abstract

Active object-oriented database management systems incorporate object-oriented database technology and active mechanisms such as event-condition-action rules (ECA-rules). SAMOS has been among the first representatives of this class of systems. During the development of SAMOS, numerous then open research questions have been addressed. In this paper, we present a "historical" perspective of the SAMOS project and report on lessons and experiences we have gained in the

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Abstract:

Active mechanisms based on event-condition-action rules will play an important role in next-generation database management systems. As an event, in its most general form, is essentially a point in time, it is obvious that an appropriate concept of time is needed for the specification of events. However, there are also other aspects related to time that need to be considered in active database systems, and which should tie in with the general concept of time in case the active database is also a temporal one. This position paper gives a brief account of where time issues arise in active database systems, and especially demonstrates various options for powerful event

specification features. 1 Motivation and relationship to temporal databases Active mechanisms are generally considered to be one of

Citations

174 Events in an Active Object-Oriented Database System – Gatzju, Dittrich - 1993

47 The integration of rule systems and database systems – Stonebraker - 1992

38 et al. The HiPAC Project: Combining active databases and timing constraints – Dayal - 1988

4 Specification, Implementation and Interactions of a Trigger Subsystem – ESWARAN - 1976

2 Chakravarthy S.: A Retrospective Analysis of Time Concepts in Temporal Databases – Kim - 1992

Real-time databases. Int – Ramamritham - 1993



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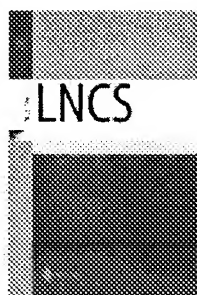
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Investigating termination in active database systems with expressive rule languages

Book Series	Lecture Notes in Computer Science
Publisher	Springer Berlin / Heidelberg
ISSN	0302-9743 (Print) 1611-3349 (Online)
Volume	Volume 1312/1997
Book	Rules in Database Systems
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Abstract

The powerful functionality that active mechanisms add to database management systems presents, besides many advantages, a number of problems related to the control of their behavior. This paper deals with one of these problems: the termination of rule execution. We explain the termination aspect and the aim of termination analysis. Then, we present our approach to investigating the termination of rule execution. In contrast to others, this approach also addresses expressive rule languages as they have been proposed for various recent active database management system prototypes.

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